Work Order		391		*983	391*							Page	1 .
Revision ID: Item Name:	D2143 Hinge Bracket			Accept	*N900	<u>040</u>	100	ን* ፡	Setup S	tart top	*N:	S1* S2*	. 427
Start Date: 3 Required Date: 3 Reference:	3/11/13 3/15/13	Start Qty: 12.00 Req'd Qty: 12.00	*12* *12*		Cust Item I Customer:	I D :							
Approvals:		in: MLJ				ate:		I		tart top	*N	R1*	
	QC:		Date:	SPC (Y/N):	D:	ate:					*N	R2*	
Sequence ID/ Work Center ID		Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty		Reject Number	Insp. Stamp	
Draw Nbr	Rev	ision Nbr											
D2143	Rev	Cl											
100				0.00								OAS	
100		FLOW WATER JET						12	· · · · · · · · · · · · · · · · · · ·		(05	. 13· W
Waterjet FLOW CNC Waterjet		Memo	Dwg D2143	0.00								6 -0-	
5052 .040		Dwg Rev:_ Prog Rev:_ 2-Deburr if	<u>Cl</u>										
110		QC2- Inspect parts off m	nachine FAJ/FAJB	0.00								CAS	
110								12				(05)	13.0H
QC		Memo		0.00								₹.6- 89	4
Quality Control		•											
120		QC8- Inspect parts - seco	ond check	0.00 A						-			ι
120 QC Quality Control		Memo		0.00 16	3/04/22			(ZHZ)	-			· · · · · · · · · · · · · · · · · · ·	

											DQA:	Date	e:	
NCR:	Yes	/ No				WORK ORDER NON-O	100	NFORM	/ANCE / UPDATE			- 17.		
											QA Closed:	Date	e:	
Mark Ord					•	DISPOSITION			AGAINS	T DE	PARTMENT	PROCESS		
Work Ord	er:			· · · · · · · · · · · · · · · · · · ·		Rework	7		Skid-tube Crosstub	e		Water Jet	\neg	Engineering
Part I	No.					Scrap		1	Machining Small Fa	-	Pro	d. Eng. Coor.	1	Quality
						Use-as-is		•	noforming Finishin	g	Rec/Stor	re/Packaging		Other
NCR I	No.					Work Order Update]		Large Fab Composit	e		Supplier		
Root					Descri	ption of work order update		Initial	Action		Sign &			
Cause		Date	Step	Qty		or Non-conformance	Cr	nief Eng	Description		Date	Verification	\perp	QC Inspector
Doc/Data														
Equip/Tooling												٠.		
Operator														
Material														
Setup														
Other														
Process	<u>. </u>													
Supplier														
Training													İ	
Unapproved	<u> </u>			<u> </u>	<u></u>							<u> </u>		
						F	AUI	LT CATE	GORY					
Landi	_	1			_	General	_	7			٦ .	r	<u> </u>	
	L	Bending				Bend	\perp	Grain		<u> </u>	Ovalized		\dashv	Pressure/Forced
		Centre N	ot Conce	ntric to	o/s	BOM/Route	<u> </u>	Hardwa		\perp	Over/Under)		Temperature/Cure
	—	Cracks			<u> </u>	Broken/Damaged	<u> </u>	⊣ `	on Incomplete	\perp	Part Incorre	- t	_	Weld
	<u></u>	Crushed/	Crimped		<u></u>	Burrs		-{	ions Incomplete/Unclear	_	Part Lost/M	issing [Wrong Stock Pulled
		Cuffs				Contamination		Mainte			Part Moved			
		Heat Trea				Countersink	_	Mislabe		_	Positioned V	· ·		
		Inspectio	n Strip in	Tube		Cut Too Short		Misread	I		Power Loss/	'Surge	(Other
		Ripples in	Bend			Drill Holes	-	Offset						

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Orde March-12-13 1:		8391	,		*98:	391	*							Page 2	2
Item ID: Revision ID:	D2143			·	Accept	*	1900	040	100)*	Setup	Start		S1*	
Item Name:	Hinge Brack	cet							•			Stop	*N:	S2*	
	3/11/13	Start Qty: 12.00		*12*			Cust Item II	D:							
Required Date: Reference:	3/13/13	Req'd Qty: 12.00		*12*			Customer:								
Approvals:	Process P	Plan:	Date:		Tooling:		Da	ite:			Run	Start	*NI	R1*	
	QC:		Date:		SPC (Y/N):		Da	ite:		٠		Stop	*NI	R2*	
Sequence ID/ Work Center II)	Operation Description			Set Up/ Run Hours		Tool ID	Tool #	Plan Code	Accep Qty	t Rej Qty		Reject Number	Insp. Stamp	
1 4 0		NC BRAKE			0.00					12.				2	Z/
Brake NC Brake NC		Memo Bend as per I	Dwg D2143		0.00					- ; - <i>U</i> -					3/0
150 *150*		QC5- Inspect part comple	eteness to step	p on W/O	0.00) :				ĺ					
QC Quality Control		Memo			0.00 B 4.5	₩								_ <u></u>	
160		Chemical Conversion Co	ot nor OSIAA	5 /1 1	0.00				· .						
160		Chemical Conversion Cos	at per QS100:	J 4.1	0.00					12	2	131	3.5.	\supseteq	
HandFinish		Memo			0.00						- 2.				-

Memo

Hand Finishing

											DQ	A:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORM	MANCE / UP	DATE				
											QA Close	d:	Date:	
Work Ord	er.					DISPOSITION				AGAINST DE	PARTME	NT/PRO	CESS	
Work Ord	٠					Rework	7		Skid-tube	Crosstube]	W	ater Jet	Engineering
Part I	No.					Scrap		ı	Machining	Small Fab	P	rod. Eng	g. Coor.	Quality
	•					Use-as-is		Thern	noforming	Finishing	Rec/S	tore/Pa		Other
NCR I	No.					Work Order Update	_		Large Fab	Composite]	S	upplier	
	<u>1</u>		·	T	D		_	Initial	Act	:	Cian 0			
Root		5.	6.			ption of work order update	1				Sign &		rification	OC Inspector
Cause	_	Date	Step	Qty		or Non-conformance	Cr	nief Eng	Descr	iption	Date	ve	rincation	QC Inspector
Doc/Data	Н								-					
Equip/Tooling	Н							-				1	•	
Operator	Н													
Material	Н													
Setup	Ш										1			
Other	Н													
Process	Н													
Supplier	Н		1											}
Training	Ш													
Unapproved				ئـــــــــــــــــــــــــــــــــــــ			<u>l</u>		<u> </u>					l
							AUI	LT CATE	<u> </u>					
Landi		1				General	_	7		r	٦			, 1
	-	Bending			<u> </u>	Bend	\perp	Grain		<u> </u>	Ovalized		<u> </u>	Pressure/Forced
	Ш	Centre No	ot Concer	ntric to (D/S	BOM/Route	L	Hardwa	re		Over/Und	der tolera	ince	Temperature/Cure
,	Ш	Cracks				Broken/Damaged	L	4	on Incomplete	<u> </u>	Part Inco			Weld
	Ш	Crushed/	Crimped.			Burrs		Instruct	ions Incomplete/U	Jnclear	Part Lost,	Missing /		Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Mov	ed .		
		Heat Trea	it			Countersink		Mislabe	led		Positione	d Wrong		_
	\Box	Inspectio	n Strip in	Tube		Cut Too Short		Misread	ł		Power Lo	ss/Surge		Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

NCR:	Yes	/ No				WORK ORDER NON-C	100	VFORM	MANCE / UPE	DATE		·	-	
					_						QA Closed:	Dat	te:	
Work Orde	or.					DISPOSITION				AGAINST DE	PARTMENT,	/PROCESS		
Part I	-					Rework Scrap Use-as-is		Therm	Skid-tube Machining noforming	Crosstube Small Fab Finishing	ł	Water Jet d. Eng. Coor. re/Packaging		Engineering Quality Other
NCR I	No. ـ				 -	Work Order Update]		Large Fab	Composite		Supplier		
Root					Descri	ption of work order update		nitial	Acti	ion	Sign &			
Cause		Date	Step	Qty	C	or Non-conformance	Ch	ief Eng	Descr	iption	Date	Verification	1	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process					·	•						- -		,
Supplier Training	Н													
Unapproved	H													
·····	<u> </u>	<u> </u>	1	<u> </u>	L	F	ΑUL	T CATE	GORY		•			
Landi	ng G	Gear				General								
-	$\overline{}$	Bending				Bend		Grain			Ovalized			Pressure/Forced
	Ш	Centre No	ot Conce	ntric to	o/s	BOM/Route	_	Hardwa	re	! 	Over/Under	•		Temperature/Cure
	Ш	Cracks				Broken/Damaged	<u> </u>	Inspecti	on Incomplete		Part Incorre	ct		Weld
	Ш	Crushed/	Crimped.			Burrs		Instruct	ions Incomplete/L	Jnclear	Part Lost/M	issing		Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved			
		Heat Trea	it			Countersink		Mislabe	eled		Positioned \	Vrong		-
		Inspection	n Strip in	Tube		Cut Too Short		Misread	d		Power Loss/	Surge		Other
	П	Ripples in	Bend			Drill Holes		Offset						

Out of Calibration Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Orde		391		*983	391*							Page 4
Item ID: Revision ID: Item Name:	D2143 Hinge Bracket			Accept	*N900	040	100)*	Setup	Start Stop	ı V.	S1* S2*
	3/11/13	Start Qty: 12.00 Req'd Qty: 12.00	*12 *12		Cust Item I Customer:	D:				·	IVI	
Approvals:	Process Pla	n:	Date:	Tooling: SPC (Y/N):		ate:			Run	Start Stop	*NI *NI	R1* R2*
Sequence ID/ Work Center II 200 *200* QC Quality Control)	Operation Description QC21- Final Inspection -	Work Order Release	Set Up/ Run Hours 0.00	Tool ID	Tool #	Plan Code	Accep Qty	Qt	13/	Reject Number	Insp. Stamp

NCR:	Yes	/ No				WORK ORDER NON-O	COI	NFORM	/IANCE / UPI	DATE	QA Closed	: Date	:
Work Orde	nr:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N	No.					Rework Scrap Use-as-is Work Order Update		f Therm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	Rec/Sto	Water Jet od. Eng. Coor. ore/Packaging Supplier	Engineering Quality Other
Root		-				ption of work order update	l	Initial	Act		Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved													
							AUI	T CATE	GORY				<u> </u>
Landi	_	I				General		1 .		_	7	Г	٦
		Bending Centre No Cracks Crushed/o Cuffs Heat Trea Inspection Ripples in	Crimped t n Strip in Bend 'aves in E	Tube		Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes Drawing		Instruct Mainte Mislabe Misread Offset Out of (ion Incomplete ions Incomplete/Usenance seled d	Unclear	Ovalized Over/Unde Part Incorre Part Lost/N Part Moved Positioned Power Loss	ect Missing d Wrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	1	Turning S	eauence		1	Finish	1	Out of 9	Sequence				

Outside Dimensions

DQA: Date:

Wave/Twist in Tube

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Picklist Print

March-12-13 1:53:48 PM

Page 1

Work Order ID:

98391

Parent Item:

D2143

Parent Item Name:

Hinge Bracket

Start Date: 3/11/13

Required Date: 3/15/13

Start Qty: 12.00

Required Qty: 12.00

Comments:

IPP C00.05.18Added inspection level 8 EC

IPP Rev:D Now on WaterJet 06-10-15 JLM

IPP Rev:E 11.01.06 remove seq 130

(tumbling) DD verf ILM				
	(tumbling)	DD	worf. II	N A

	(tuilibinig) DD ve	511.J1.JVI											
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M5052H32S.040 5052-H32 .040 Sheet		Purchased	No			100	sf	156.0000	0.066	0.8336844	!- w/	13.04	22
				Location		Loc Qty	<u>Lo</u>	c Code					
				MAT022		156.000045							
				12240)6	15.000045							
				12444	15	13							
				12457	73	128							

											DO	QA:_	Date	e: _	
NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORM	MANCE / UPI	DATE			-		
						·		,			QA Clos	ed:	Date	e:	
Work Orde	or:					DISPOSITION				AGAINST DE	PARTME	NT/	PROCESS		
VVOIK OIG	٠.		-			Rework	7		Skid-tube	Crosstube	7	,	Water Jet		Engineering
Part I	No.					Scrap	1	ŧ	Machining	Small Fab	1	Prod	l. Eng. Coor.		Quality
	•					Use-as-is			noforming	Finishing	Rec/	Store	e/Packaging	\Box	Other
NCR f	No. ِ					Work Order Update	J		Large Fab	Composite	_		Supplier	ٺــ	
Root		•			Descri	ption of work order update		Initial	Act	tion	Sign 8	<u> </u>			
Cause		Date	Step	Qty	(or Non-conformance	Ct	nief Eng	Desci	ription	Date	-	Verification	4	QC Inspector
Doc/Data	Ш														
Equip/Tooling													• .	-	
Operator							1							-	
Material											1			- 1	
Setup	Ш													ĺ	
Other							ŀ								
Process															
Supplier	Ш														
Training														ļ	
Unapproved			1	<u> </u>			<u> </u>				1				
							AUI	LT CATE	GORY						
Landi		i			_	General		J		<u></u>	٦		г	_	Daniel
		Bending				Bend	-	Grain		-	Ovalized		. , -		Pressure/Forced
İ	<u> </u>	Centre N	ot Conce	ntric to	o/s	BOM/Route	-	Hardwa		<u> </u>	⊣		tolerance	_	Temperature/Cure
	⊢	Cracks				Broken/Damaged	\vdash	4 '	on Incomplete		Part Inc		+	—-	Weld
	-	Crushed/	Crimped		·	Burrs	-	-	ions Incomplete/	Unciear	Part Los		ssing [Wrong Stock Pulled
	\vdash	Cuffs				Contamination	\vdash	Mainte		<u> </u>	Part Mo		1		
	-	Heat Trea			<u> </u>	Countersink	-	Mislabe		 -	Position			\neg	Other
	-	Inspectio		Tube		Cut Too Short	\vdash	Misread	t		Power L	.oss/S	ourge [l	Other
l	1	Ripples in	n Bend		ı	Drill Holes		Offset							

Out of Calibration

Out of Sequence

Outside Dimensions

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Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

DART AEROSPACE LTD	Work Order:	98391
Description: Hinge Bracket	Part Number:	D2143
Inspection Dwg: D2143 Rev: C1		Page 1 of 1

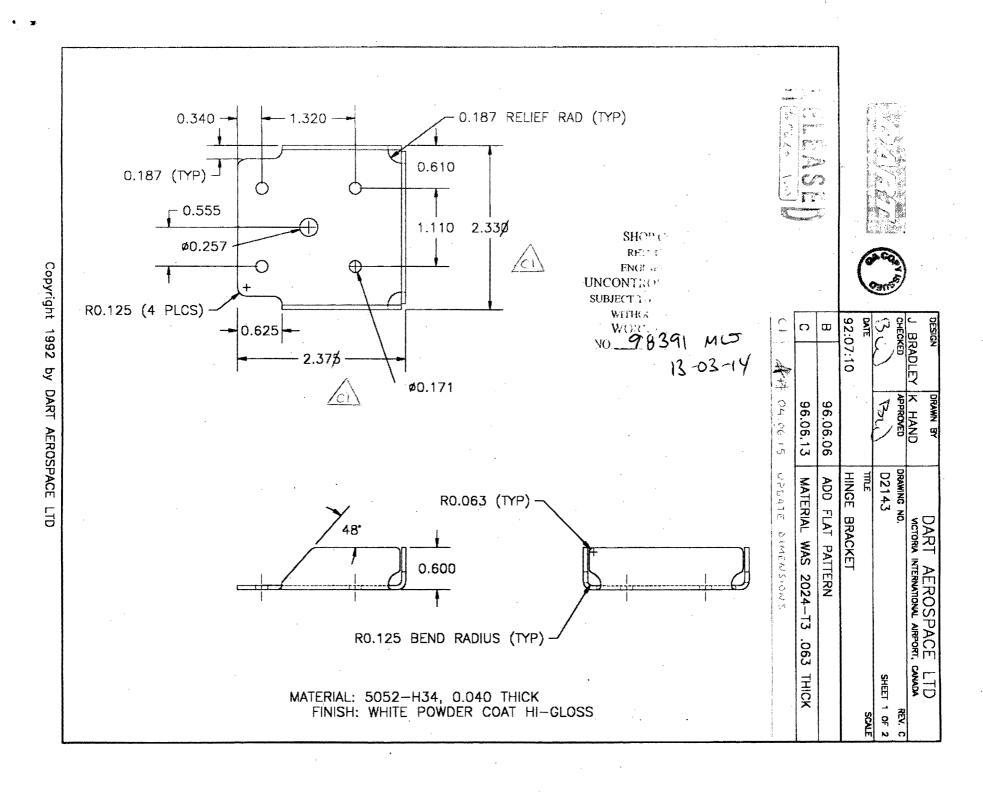
FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.340	+/-0.010	0.331	/		V	JRM-01
0.625	+/-0.010	0.622	/		V	
1.000	+/-0.010	0.995	V		V	
R0.063	+/-0.010	K 0.063	1/		* RE	
2.656	+/-0.010	2,656			1	-
3.317	+/-0.010	3.320	1		V	
Ø0.257	+0.005/-0.000	0.258			V	
Ø0.171	+0.005/-0.000	0.171	V		V	
1.660	+/-0.010	1.652	V		ν	
2.844	+/-0.010	7.838	/		V	
1.659	+/-0.010	1.655	V .		V	
R0.125	+/-0.010	KO.125	V		RG	
2.312	+/-0.010	2.302	/		V	

Measured by:	M	Audited by: OAS	Prototype Approval:	N/A
Date:	15.04.72	Date: 16 13 (04/22	Date:	N/A

	Rev	Date	Change	Revised by	Approved
[Α	04.11.11	New issue	KJ/JLM	all



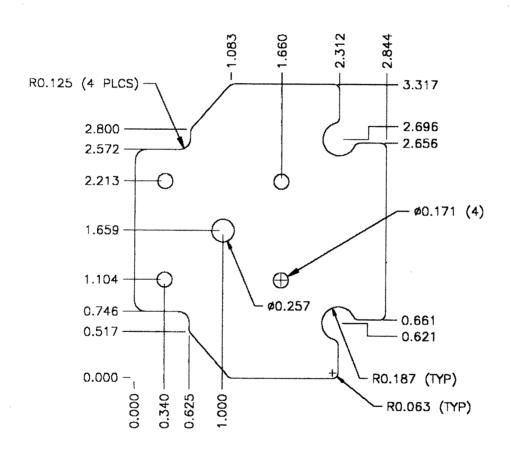






	DESIGN	DRAWN BY	0.07 .000000000000000000000000000000000	
`			DART AEROSPACE LTD	•
<i>وا</i>	J BRADLEY	K HAND	VICTORIA INTERNATIONAL AIRPORT, CANADA	
J	CHECKED	APPROVED	DRAWING NO.	REV. c
2	Bul	Bow	D2143 SHEET	2 OF 2
	DATE		TILE	SCALE
	95:10:18		HINGE BRACKET FLAT PATTERN	5.1





MATERIAL: 5052-H34, 0.040 THICK GRAIN ALONG 3.317